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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/675,057	09/29/2000	Masaharu Tsuboi	0505-0692P	9453

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EXAMINER

PEREZ, GUILLERMO

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 03/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/675,057

Applicant(s)

TSUBOI, MASA HARU

Examiner

Guillermo Perez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☒ Claim(s) 18 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 13.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 3, 5-13, 14, and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Wakao et al. (WO99/16654).

Referring to claim 1, Wakao et al. disclose a motor-assisted drive unit for a vehicle (*according to U. S. Pat. 6,268,669 which is a translation of the PCT document*), comprising:

a motor (10 in figure 13) having a shaft for providing power to a drive wheel of the vehicle; and

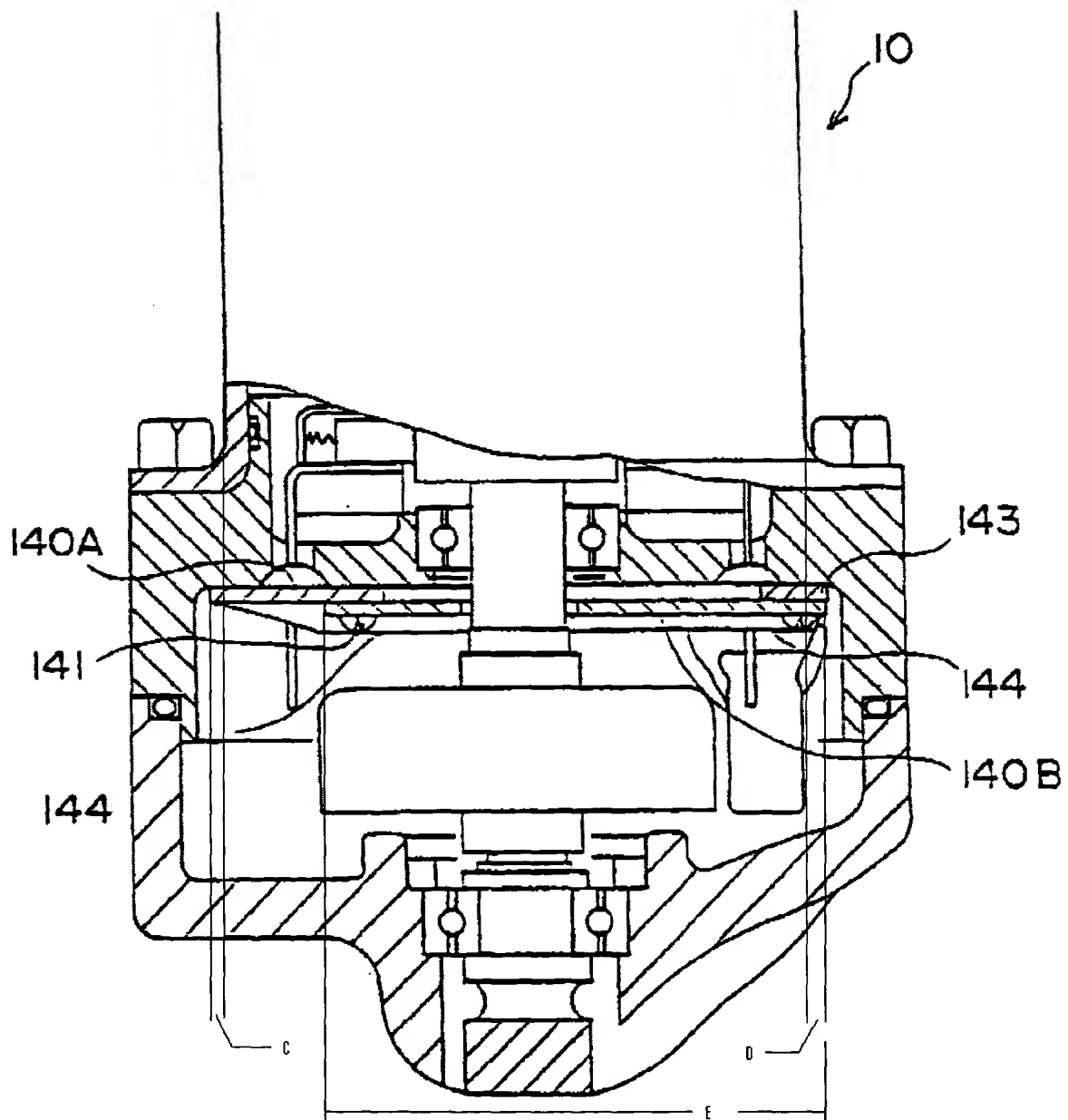
a first control board (140B) on which control devices (42) of the motor (10) are mounted, the first control board (140B) being arranged substantially perpendicularly to the shaft of the motor (10),

at least part of the first control board (140B) extending to a position overlapped with the motor (10), the first control board (140B) having a first region overlapped with the motor (10), and a second region (*C in the attached figure*) not overlapped with the motor (10).

Referring to claim 2, Wakao et al. disclose a second control board (140A) having a first region overlapped with said motor (10), a second region (*C in the attached figure*)

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not overlapped with said motor (10), and a processing unit (43) mounted on a first region of the second control board (140A), said processing unit (43) being one of the control devices (41).



Referring to claim 3, Wakao et al. disclose a casing (20 in figure 2), the motor (10) being disposed within the casing (20).

Referring to claim 5, Wakao et al. disclose a thermally conductive board (140A) provided on a casing side of the first control board (140B); and

a semiconductor device (43) mounted on the thermally conductive board (140A), wherein the control devices (41,42) of the motor (10) are mounted on two surfaces of the control board (140A,140B).

Referring to claim 6, Wakao et al. disclose that at least part of the thermally conductive board (140A) abuts the semiconductor device (43).

Referring to claim 7, Wakao et al. disclose that at least a part of the thermally conductive board (140A) is in contact with the casing (20).

Referring to claim 8, Wakao et al. disclose a motor-assisted drive unit for a motor-assisted vehicle, comprising:

a motor (10) for providing power to a drive wheel of the vehicle;

a first control board (140A) having at least one control device (41) mounted thereon; and

a second control board (140B) having at least one control device (42) mounted thereon, wherein

the first and second control boards (140A,140B) extend in a direction substantially perpendicular to a motor shaft of the motor (10),

the second control board (140B) overlapping (*E in the attached figure*) with at least a part of the first control board (140A);

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the first control board (140A) having

- a first region (overlapped with the motor (10), and
- a second region (*C in the attached figure*) not overlapped with the motor (10).

Referring to claim 9, Wakao et al. disclose a casing (20), the motor (10) and the first and the second control boards (140A, 140B) being disposed in the casing (20).

Referring to claim 10, Wakao et al. disclose that the at least one control device (42) mounted on the second control board (140B) includes at least one of:

- a control processor (47),
- a capacitor, and
- a relay.

Referring to claim 11, Wakao et al. disclose that the at least one control device (41) mounted on the first control board (140A) includes transistor (43).

Referring to claim 12, Wakao et al. disclose that the second control board (140B) is a printed wiring board, and the first control board (140A) is a metal board.

Referring to claim 13, Wakao et al. disclose that the first control board (140A) includes aluminum (column 12, lines 40-44).

Referring to claim 14, Wakao et al. disclose a casing (20), the motor and the first and the second control boards (140A, 140B) being disposed in the casing (20),

the first control board (140A) being attached to an inner wall surface of the casing (20), and

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the second control board (140B) being disposed over the first control board (140A), with a gap disposed between the first control board (140A) and the second control board (140B).

Referring to claim 17, Wakao et al. disclose that at least one of the control devices (43) is disposed on one side of the motor (10 through the board housing 22).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4, and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakao et al. in view of Okada (U. S. Pat. 5,444,314).

Wakao et al. disclose a motor-assisted drive as described on item 1 above. However, Wakao et al. do not disclose that the second control board is elastically supported by a rubber member disposed around a casing boss portion for rotatably supporting the motor shaft of the motor. Wakao et al. do not disclose that the rubber member is compressed between the second control board and a motor supporting portion of the casing.

Okada discloses that the control board (12) is elastically supported by an annular rubber member (14) disposed around a casing boss portion (3) of the motor shaft.

Okada discloses that the rubber member (14) is compressed between the control board

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(12) and a motor supporting portion (15) of the casing (1). Okada's invention has the purpose of dampening vibration and providing a sound-proofing casing to the motor.

It would have been obvious at the time the invention was made to modify the motor-assisted drive of Wakao et al. and provide it with rubber configuration disclosed by Okada for the purpose of dampening vibration and providing a sound-proofing casing to the motor.

Response to Arguments

Applicant's arguments with respect to claim 2 have been considered but are moot in view of the new ground(s) of rejection.

In response to Applicant's remark that Wakao fails to disclose a region not overlapped with the motor, it must be noted that the feature is shown not only in figure 18 but also in figure 13, a portion of which is attached to this action.

Allowable Subject Matter

Claims 18-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wakao (U. S. Pat. 6,268,669) is the translation of the WO 99/16654 document used in the present rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guillermo Perez whose telephone number is (703) 306-

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5443. The examiner can normally be reached on Monday through Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308 1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305 3432 for regular communications and (703) 305 3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956.



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TECHNOLOGY CENTER 2800

Guillermo Perez
March 8, 2003